DOCUMENT RESUME

ED 417 517 EC 306 259

AUTHOR	Rimmer, James H.
TITLE	Aging, Mental Retardation and Physical Fitness.
INSTITUTION	Arc, Arlington, TX.; Illinois Univ., Chicago. Inst. on Disability and Human Development.
SPONS AGENCY	National Inst. on Disability and Rehabilitation Research (ED/OSERS), Washington, DC.
PUB DATE	1998-00-00
NOTE	9p.
CONTRACT	H133B0069
AVAILABLE FROM	The Arc of the United States, 500 E. Border St., S-300, Arlington, TX 76010; telephone: 817-261-6003; TDD: 817-277-0553; e-mail: thearc@metronet.com; World Wide Web: http://TheArc.org/welcome.html
PUB TYPE	Guides - Non-Classroom (055) -- Information Analyses (070)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Aging (Individuals); Definitions; *Mental Retardation; *Older Adults; *Physical Fitness; Program Development; Quality of Life

ABSTRACT

This fact sheet uses a question-and-answer format to provide an overview of what physical fitness is and how it relates to people with mental retardation. Questions address the following topics: the fitness movement; a definition of physical fitness; the different components of physical fitness (muscle strength and endurance, flexibility, body composition, and cardiovascular endurance); the importance of each part of fitness to aging adults; evidence that the physical fitness of people with mental retardation is substantially poorer than that of the general population; the fitness levels of older adults with mental retardation; the physical aging process; the importance of older people with mental retardation becoming more active; and a five-step program for starting a structured exercise program for an aging adult with mental retardation. A list of suggested print and organizational resources is attached. (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 417 517

Aging With Mental Retardation

Aging, Mental Retardation and Physical Fitness

by James H. Rimmer, Ph.D., Director, Center on Health Promotion Research for Persons with Disabilities, and Principal Investigator of the Health Promotion Project, RRTC on Aging with Mental Retardation, Institute on Disability and Human Development, University of Illinois at Chicago

The purpose of this fact sheet is to provide an overview of what physical fitness is and how it relates to older people with mental retardation. The fact sheet will also provide some helpful guidelines for family members, support people, service providers, and others interested in starting a program for older individuals with mental retardation.

The fitness movement

The fitness movement in this nation has risen to new heights. People today are becoming more aware of the need to participate in regular physical activity. Many Americans are joining fitness centers or purchasing home exercise equipment. This remarkable interest in fitness stems from several research studies that have been published over the last few years demonstrating the enormous health benefits that can be obtained from a higher level of fitness. These studies have shown that the risk of health problems and death from disease, including heart disease, cancer, diabetes, and stroke, drops as a person's fitness level improves.

What is "physical fitness?"

Physical fitness must be defined with consideration for an individual's age and lifestyle. For a younger person, physical fitness is defined as a physical condition that allows an individual to work without becoming overly fatigued, perform daily chores, and have enough energy left over to engage in leisure activities. For example, if an individual is unable to make it through an eight-hour work day or is too tired at the end of the day for leisure or household activities such as gardening, walking, playing tennis or cleaning, then he or she probably has too low a level of physical fitness. For the older person who may not necessarily be working eight to ten hour days, physical fitness could be defined within the context of being able to conduct the day's chores (e.g., cleaning, dressing, shopping, doing laundry, climbing stairs) without becoming exhausted or tired. Stated another way, the person has enough energy to do daily chores, and still has a reserve of energy left over in order to participate in some type of leisure activity such as gardening or going for a walk. Physical fitness is extremely important for the older population because as a person ages, there is a higher level of fatigue and often pain resulting from arthritis, low back problems, or other ailments. As these conditions worsen over time, many older

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

Author's note: This information is pertinent to many people with other developmental disabilities.

The Arc
a national organization on mental retardation

Rehabilitation Research and Training Center on Aging with Mental Retardation
UIC Institute on Disability and Human Development
University of Illinois at Chicago

EC 306259

people become more sedentary thinking that if they rest they will get better. On the contrary, when older people rest and become more inactive, they feel increasingly tired because they have decreased their physical fitness. Thus, it is a vicious cycle: disability and pain cause decreased movement, and decreased movement results in less fitness and a higher level of dysfunction. A good physical fitness level—regardless of the disability—helps older people maintain their quality of life and can reduce their dependence on others to help with activities of daily living such as climbing stairs, bathing, and doing housework.

The second part of the definition for physical fitness can apply to both younger and older individuals. A moderate to high level of fitness reduces the incidence of "hypokinetic" diseases. Hypokinetic basically means a lack of movement or too little movement. When the body doesn't move enough, it slowly deteriorates and becomes vulnerable to disease. In essence, a sedentary lifestyle can contribute to or increase the severity of such problems as hypertension (high blood pressure), obesity (excess fat), adult-onset diabetes, osteoporosis (brittle bones), depression, and low back pain. Individuals who are poorly fit often end up with one or more of these conditions, which impairs the individual's quality of life.

What are the different components of physical fitness?

There are four parts to physical fitness:

- Muscle strength and endurance
- Flexibility
- Body composition (body fat)
- Cardiovascular endurance (the ability of the heart, lungs and blood vessels to transport oxygen to working muscles)

To attain a good level of fitness, your physical fitness routines should focus on each of these areas. Each part of physical fitness directly relates to the health of the individual and to the person's ability to get through the day's activities without becoming overly fatigued.

Importance of each part of fitness to aging adults

The four areas of fitness are all very important to a healthy lifestyle. In order for the body to move as efficiently as possible, and in order to prevent those debilitating hypokinetic diseases, all four parts of fitness must be worked on at least on a weekly basis.

Muscle strength and endurance is needed to complete activities of daily living. For example, being able to climb stairs, get in and out of a bathtub or chair without relying too much on the arms, open jars, carry groceries, lift boxes, etc., all depend on an adequate level of muscle strength and endurance. As a person grows older, strength declines and these tasks become more and more difficult. When it gets to the point where the person does not have enough strength to climb stairs or get out of the bathtub, it often means that the person will be dependent on others for assisting them with their activities of daily living. Some experts believe that muscle strength and endurance is the most important component of physical fitness for older adults. Research has shown that there is a significant loss in muscle strength starting at age 45 and continuing up to age 65, and a further decline in the seventh and eighth decades of life. The loss in strength is greater in men than women.

Cardiovascular endurance keeps the circulatory system—the heart, blood vessels and lungs—in good condition. The number one cause of death in this country is from heart disease. Research has shown that by maintaining good cardiovascular endurance throughout life, you can drastically decrease your chances of having a heart attack, stroke and many other diseases. Good cardiovascular endurance also allows people to have lots of energy during the day, so that they don't become fatigued from doing household activities or other physical tasks such as climbing stairs or walking.

Flexibility involves the stretching of connective tissues in our body, which includes the muscles, tendons and ligaments. Most older adults become very inflexible as they grow older, partly due to a lack of physical activity. When muscles are not moved for a long period of time, they gradually shorten to a point where it becomes difficult to reach for things or bend over to pick something up from the floor. The older a person gets, the tighter his or her muscles become. Flexibility is often neglected in a fitness program. Most people prefer to spend their time doing cardiovascular activities such as riding a stationary bike or walking. However, as a person grows older, flexibility exercises become extremely important for preventing tightness in the joints and muscles.

Body composition is the fourth part of fitness and has to do with the amount of fat that you store in your body. There are numerous research studies that have shown that the more body fat you have the worse your fitness and the quicker your body will age. This is because body fat is "dead weight" and takes a heavy toll on all the systems of the body (e.g., bones, joints, heart, lungs) over time. It's sort of like carrying heavy sandbags in your car. The extra weight puts more stress on the engine and causes a quicker deterioration. Just look around you. There are not too many heavy people living into their 80s and 90s. Most of the very old, including those over 100 years, are lean, and in some cases, just plain skinny! When body fat levels are very high (which is called obesity or overweight), a person is at greater risk for a variety of health problems, including arthritis, diabetes, depression, back pain, heart disease, stroke, and high blood pressure. Body composition has a lot to do with the amount of activity that you get during the day, as well as the type and amount of food you eat.

Do people with mental retardation have problems in these areas?

Yes. Research indicates that people with mental retardation have very low levels of cardiovascular endurance. A lack of cardiovascular endurance often means the individual is unable to sustain long workdays or participate in leisure-time activities (e.g., hiking, swimming, biking) without becoming fatigued. A poor cardiovascular fitness level also translates into a higher risk of disability and death.

The strength levels of adults with mental retardation have also been shown to be very poor. Most studies have indicated that because of a lack of strength at such an early age, it will be very difficult for people at 50 or 60 years of age to perform activities of daily living that require a minimal level of strength. These include climbing stairs, getting up from a chair or the floor, or carrying objects such as a tray filled with food.

Perhaps the most disturbing findings pertain to the fitness levels of adults with mental retardation in regard to their body fat levels. Whereas a third of all Americans are overweight, close to one-half of all people with mental retardation are overweight. When we separate women from men, we find that many more women with mental retardation are overweight compared to men with mental retardation. The high levels of obesity (excess fat) found in people with mental retardation expose them to a higher risk for many different types of diseases that are associated with high levels of body fat. These include Type II diabetes, hypertension, heart disease, stroke, arthritis, respiratory diseases, and cancer.

What are the fitness levels of older adults with mental retardation?

Although there haven't been any studies completed on aging adults with mental retardation, the research on younger adults with mental retardation has shown that as a group, they have very poor fitness levels. To be quite frank, the fitness levels of adults with mental retardation, in general, are terrible. So, as younger people with mental retardation age, their general lack of physical fitness on top of health problems that older people generally face increases the likelihood that many will have health problems beyond those of their nondisabled peers.

Research (Rimmer, 1994) has noted that adults with mental retardation are at risk for all kinds of hypokinetic diseases that result from physical inactivity. One researcher went as far as saying that people with mental retardation are a "population at risk" because of their sedentary lifestyle (Peterti and Campbell, 1991).

What happens to the body as we age?

The body goes through several changes as we age. First, there is a loss in muscle tissue and a gain in fat tissue. Unfortunately, this is a negative change because fat does not perform a function like your muscles which contract in order to move the body. Therefore, fat just adds to our body weight, making it more difficult to move.

Bones start to lose their mineral content (calcium and phosphorus) as we grow older. This leads to one of the biggest health problems in the elderly, osteoporosis. Osteoporosis causes compression fractures, which are small cracks in the bones. This usually occurs in three areas: the hips, vertebrae (bones in the back) and wrist. When osteoporosis gets progressively worse, a hip fracture can occur.

Our cardiovascular system, consisting of the lungs, heart and blood vessels, takes a heavy toll as we grow older. A great deal of the deterioration to the cardiovascular system has to do with lifestyle. There is an accumulation of plaque (calcium, cholesterol, fats) inside the blood vessels which over time can lead to a blockage or a ruptured artery. When this occurs, a person will sustain a heart attack or stroke. The number one cause of death in this country is due to cardiovascular disease.

The last thing that slowly starts to deteriorate is the central nervous system. Our reflexes and reactions become slower, and we lose speed in doing things that require agility. Catching ourselves from a slip or fall becomes more difficult.

Should older people with mental retardation become more active?

Yes. People with mental retardation who lack physical fitness are more likely to incur other disabling conditions as they age. It is important for these individuals to start to look for opportunities to increase their physical activity. Health care providers, staff and family members should also take an active role in supporting physical fitness in the aging adult with mental retardation. For example, physical fitness could be included as part of an individual's habilitation plan.

Research has shown that even the frail elderly, which includes people in their 80s or 90s, can improve their fitness level. One study documented large increases in strength and function after a weight-training program in 90-year old people living in a Boston area nursing home. Other studies have shown significant increases in cardiovascular endurance after performing an exercise program that involved large muscle groups.

Clearly, one of the best ways to get an older person with mental retardation involved in physical activity would be to join a structured exercise program. This would help maintain regularity to the program, and keep the person on a consistent schedule. So often exercise programs are started only to be stopped a short while after they begin. A structured program offers the consistency that so many individuals need in order to continue exercising.

For more information on fitness programs, contact your local YMCA/YWCA, senior center or private fitness center in your community.

What are the steps to becoming more fit for the aging adult with mental retardation?

Here is a list of recommended steps for starting a structured exercise program for an aging adult with mental retardation.

Step 1 - Get Physician Approval to Start an Exercise Program

Because of the high risk of injury in starting an exercise program for an older adult who has been inactive for much of his or her life, it is important that the person have a physical to make sure that it is safe to begin an exercise program. Even though a person may have high blood pressure, arthritis, and obesity, an exercise program can and should be started. A precaution is that the physician gives his or her approval before starting the exercise program.

Step 2 - Increase Physical Activity Throughout the Day

We often fail to realize that increasing physical activity levels throughout the day can expend a larger number of calories. This is especially important for individuals who won't or do not want to participate in a structured physical fitness program. Some helpful tips include the following:

- Get rid of the remote control and get up and down when changing television channels.
- Use weights (e.g., milk jugs filled with water) to lift and lower several times a day to build strength and flexibility.
- Use stairs instead of the elevator, especially when only going up or down one or two floors.
- While watching television, perform stretching exercises during commercials.

- Go for short five to ten minute walks two to three times a day and work toward increasing pace and duration to benefit cardiovascular endurance.
- While lying in bed, lift and lower each leg several times and then lift and lower each arm several times.
- Stand against a wall with arms outstretched and palms flat against the wall. Bend elbows and bring face close to the wall and then extend arms again. This is called a wall push-up.
- Shoot a basketball, play catch, go ice-skating and participate in other informal sports and physical activities.
- Get involved in community recreation and formal sports programs during the year, such as senior arthritis exercise classes offered by the YMCA/YWCA, low impact aerobic dance, yoga classes, swimming or Special Olympics International's Unified Sports® programs.

Step 3 - Choose the Right Exercise Program

There are a variety of exercise programs that are offered in most communities. It is important to select one that fits the specific needs of the individual. Most YMCA/YWCAs offer exercise classes for older adults and so do senior centers. However, these classes are often very structured and may not fit the needs of some older adults with mental retardation. Ask the director of the program if there is a slower moving aerobic dance class, or if a weight training program could be adapted for a group of older adults living in one setting (e.g., group home). It is important that directors of fitness centers understand that they cannot intentionally or unintentionally discriminate against persons with disabilities. If the program doesn't fit the needs of the client, then it's the responsibility of the director to develop a program that does fit the individual's needs. Never take "no" for an answer. There are professionals in adapted physical education or exercise physiology who have a background in developing exercise programs for people with mental retardation. If the YMCA/YWCA or fitness director does not have the expertise to meet the needs of the consumer, then point them to local adapted physical education instructors located in public schools or other experts that can help them develop the program.

Step 4 - Exercise a Minimum of Three Days a Week

Once you select the right setting for your exercise program, it's important to exercise at least three days a week. The exercise program should consist of the following components: cardiovascular endurance, muscle strength and endurance, and flexibility. Each of these components should be developed, but more emphasis should be placed on the weakest areas of fitness. For example, if a person has very low levels of arm muscle strength and poor flexibility in the hamstrings, then that person should spend a little more time during each exercise session working on those areas by perhaps lifting light weights or stretching the hamstrings. However, it's important to work on all areas of fitness, so the person would also want to include cardiovascular exercise during each session, perhaps by riding a stationary bike or using a treadmill. Try to also add some extra activity on the days when the person does not go to a structured fitness program. For example, go hiking, swimming, bike riding or participate in various sports. (Note: There are adult-size tricycles for people unable to ride a bicycle.)

Step 5 - Keep the Program Fun and Rewarding

The exercise program must be enjoyable if the person is going to continue with the program for any length of time. If you notice that the person is getting tired of doing the same exercises, ask the fitness instructor to create a new program using different types of equipment and exercises. Sometimes fitness instructors get locked into the same exercise routines and the person gets bored and drops out. There are lots of different ways to develop each area of fitness and a creative instructor can keep people interested in the program. For example, a "before and after" photograph of the person can be taken to help him or her see the progress being made in weight loss, improved posture and increased muscle gain. A good fitness instructor will also notice early signs of burnout or boredom and will modify the program before the person drops out.

Professional Associations and Resources

National Consortium for Physical Education and Recreation for Individuals with Disabilities
Adapted Physical Education National Standards
P. O. Box 6639
Charlottesville, Va. 22906-6639
(888) APENS-EX

The Consortium can provide technical support concerning adapted physical education.

American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD)
American Association for Active Lifestyles and Fitness (AAALF)
Adapted Physical Activity Council (APAC)
1900 Association Drive
Reston, Va. 22091
(703) 476-3430; aaalf@aahperd.org (e-mail)

APAC is a council within AAALF, a division of AAHPERD. APAC can be contacted at the address, telephone or e-mail address above, and is the primary contact for information on physical fitness and people with mental retardation. APAC can provide materials pertaining to adapted physical fitness education.

Special Olympics International (SOI)
Unified Sports®
1325 G Street, N.W., Suite 500
Washington, DC 20005-3104
(202) 628-3630

SOI's Unified Sports® program brings athletes of similar ability, with and without mental retardation, together on the same teams.

Eichstaedt, C. B., & Lavay, B. W. (1992). *Physical activity for individuals with mental retardation.* Champaign, Illinois: Human Kinetics Publishers. (800) 747-5698

Rimmer, J. H. (1994). Fitness and rehabilitation programs for special populations. WCB McGraw-Hill. (800) 338-3987

Sherrill, C. (1998). *Adapted physical activity, recreation and sport.* WCB McGraw-Hill. (800) 338-3987

Winnick, J. P. (1995). *Adapted physical education and sport.* Champaign, Illinois: Human Kinetics Publishers. (800) 747-5698

References

Pitetti, K.H. & Campbell, K.D. (1991). *Mentally retarded individuals: A population at risk?* Medicine and Science in Sports and Exercise: 23, 586-593.

Rimmer, J. H. (1994). *Fitness and rehabilitation programs for special populations.* Dubuque, Iowa: WCB McGraw-Hill. (800) 338-3987

BEST COPY AVAILABLE

The Center on Health Promotion Research for Persons with Disabilities

Located in the Institute on Disability and Human Development at the University of Illinois at Chicago, the Center has recently been funded by the Centers for Disease Control and Prevention (CDC) to establish a health promotion program for persons with disabilities. Principal investigator of the project is James H. Rimmer, Ph.D., and co-principal investigator is Glenn Hedman, M.Eng. Secondary health conditions will be studied including lack of fitness, obesity, poor nutrition, emotional dependence, depression, behavioral problems and family stress. The intervention component will be comprised of exercise sessions, nutritional training, cooking instruction, weight management, stress reduction, and peer support. The Center will begin operation in January 1998 and will include a collaborative project with the RRTC on Aging with Mental Retardation. For more information, contact Dr. Rimmer at the address, telephone number or e-mail listed below.

Author:

James H. Rimmer, Ph.D., is Director of the Center on Health Promotion Research for Persons with Disabilities, Institute on Disability and Human Development, University of Illinois at Chicago. Dr. Rimmer can be contacted at: (312) 413-9651 (voice), (312) 413-3709 (fax), (312) 413-0453 (TDD) or jrimmer@niu.edu (e-mail).

Important Information

Many people use a fitness center or exercise program to keep fit. If you are assisting a relative or friend with mental retardation, keep these questions in mind to help locate the most appropriate program.

1. Is the center or program aware of how to accommodate people with disabilities under the Americans with Disabilities Act?
2. Does it have anyone on staff who has a background in working with people who have disabilities?
3. Does it have accessible equipment?
4. Does it offer individualized training sessions at no extra cost or at a minimal cost?
5. Would it be willing to send one of its instructors to a training course or workshop on learning more about fitness and disability?
6. Do instructors have any training in rehabilitation, adapted physical education or exercise physiology for special populations?
7. Do instructors have a positive attitude toward working with people who have disabilities? Are they open to learning more about a disability?
8. Do instructors put the individual through an assessment to determine the specific strengths and weaknesses of the person in the area of fitness?
9. Do instructors change the program periodically to prevent boredom or burnout?

November 1997

The Arc of the United States
500 E. Border St., S-300
Arlington, Texas 76010
817/261-6003, 817/277-0553 (TDD)
thearc@metronet.com (E-mail)
http://TheArc.org/welcome.html (WWW)

RRTC on Aging with Mental Retardation
Institute on Disability and Human Development
University of Illinois at Chicago
1640 West Roosevelt Road, Chicago, Illinois 60608-6904
1-800-996-8845 (V), 1-800-526-0844 (Illinois Relay Access)
http://www.uic.edu/orgs/rrtcamr/index.html (WWW)

The Rehabilitation Research and Training Center (RRTC) on Aging with Mental Retardation is funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education, grant #H133B0069. The opinions in this publication are those of the grantee and do not necessarily reflect those of the U.S. Department of Education.